Part II: Program Management Operating Guidance

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Organization of Part II

Part II describes program management from the program manager's point of view and also in the context of the EERE (SMS). This structure should help to ensure that the individual program's activities are coordinated and correlated with those of the higher-level EERE organization. This should assist both the program manager and the higher-level EERE management in managing their programs and missions respectively. The result will be improved integration of EERE's programs.

Specific Program Management Roles and Responsibilities:

- **Program Management and (SMS) as an Integrated Whole (System)**
- **Planning**
- **Budget Formulation**
- **Budget Execution**
- **Analysis and Evaluation**

Chapter 3 first discusses, in Section 3.1, the EERE programs as the building blocks to the EERE mission. Section 3.2 lists the current core EERE programs, and Section 3.3 distinguishes EERE programs from projects. Section 3.4 describes the general program management roles and responsibilities for headquarters and field organizations and personnel. Section 3.5 lists specific program management roles and responsibilities by stage and distinguishes them from project management (which is not a topic of this guide). Finally, Section 3.6 provides an overview of "How to Manage an EERE Program," covering all stages and the complete cycle of program management activities.

Section 4.1 of Chapter 4 presents program management and the EERE SMS as an integrated whole, showing the linkages and relationships between the elements and by providing a framework for managing the planning, budgeting, implementation and evaluation activities across several cycles simultaneously. The EERE "," EERE's program management information tool, is also introduced and its purpose and main features are described.

Chapter 4 breaks the program management cycle into its constituent elements; Planning Overview (Section 4.2), Budget Formulation (Section 4.3), Budget Execution (Section 4.4) and Program Analysis and Evaluation (Section 4.5). Each of these elements in turn is presented from three perspectives. First, a general discussion covers the important concepts in the specific program management element. Next, the applicable program management processes are presented in detail. They describe typical methods and techniques that a program manager uses in most scenarios. Although they represent approaches that have been used successfully in the past, they are not meant to be "one size fits all." Approaches should be tailored for the specific situation. Finally, program management is presented from the point of view of the

organizational system, SMS. The purpose is to show how the SMS operates and how the program manager interfaces with the SMS processes. Specific guidance for each step of the SMS is contained in separate EERE Information and Instruction Modules.
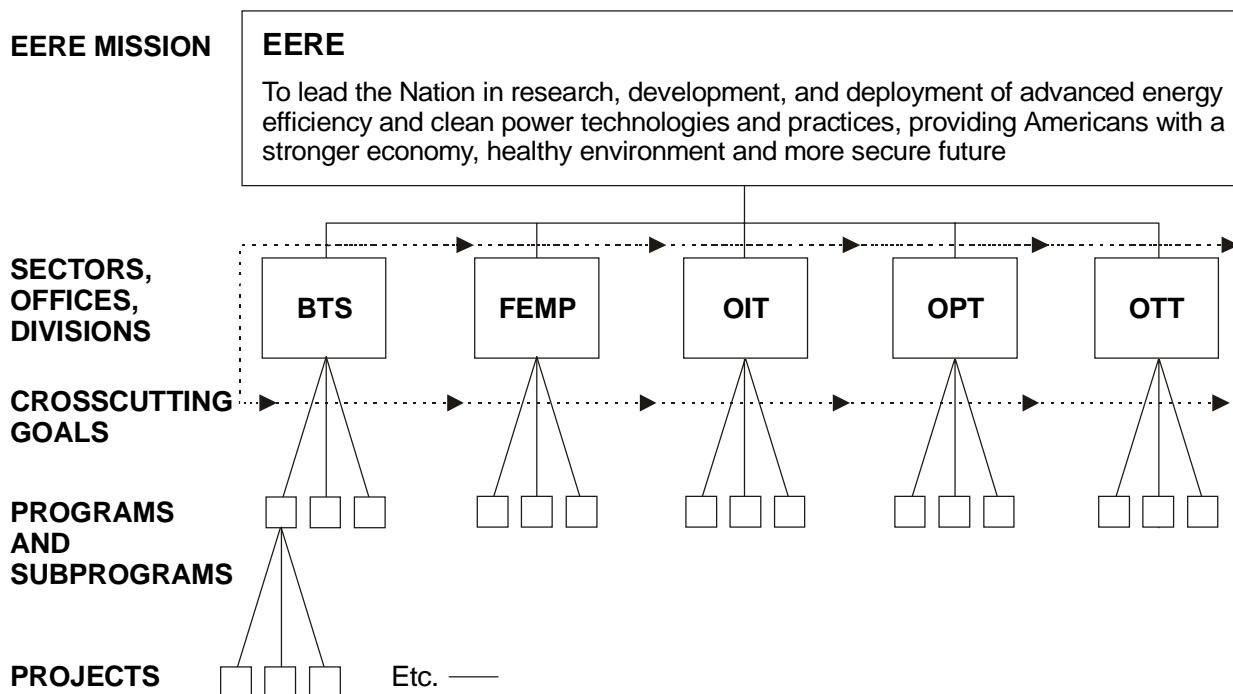
Chapter 3
Management of Programs in EERE (General)

3.1 EERE Programs as Key Mission Elements

EERE accomplishes its mission through individual programs and collective efforts across programs.

To accomplish its mission, EERE, like any organization, must divide its work into manageable "segments." All of the work done in EERE can be represented by a work breakdown structure ; a pyramid where the top level is the EERE mission and the succeeding lower levels are the EERE Sectors, Offices and Divisions, respectively. The next level is the Program, the primary EERE mission element or building block. Most EERE Programs are further subdivided by the program manager into sub programs. EERE must ensure that all of the work needed to accomplish its mission has been assigned to, and is being pursued by, individual programs, or is being addressed collectively across sectors and programs as "crosscut" goals and objectives. If all programs are successful in meeting their goals and objectives (including their expected contribution to crosscut goals) then, by definition, EERE should be successful in accomplishing its mission.

EERE and the PMs are involved in producing a series of related specific plans including Strategic Plans, Multi-Year Plans, Annual Operating Plans, Approved Funding Programs and R&D and Technology Roadmaps.

EERE MISSION

EERE

To lead the Nation in research, development, and deployment of advanced energy efficiency and clean power technologies and practices, providing Americans with a stronger economy, healthy environment and more secure future

SECTORS, OFFICES, DIVISIONS

| BTS | FEMP | OIT | OPT | OTT |

CROSSCUTTING GOALS

PROGRAMS AND SUBPROGRAMS

PROJECTS   Etc. ——

Below the program level is the project level. Projects may include discrete research and development activities, technology demonstrations or deployment initiatives. The distinctions between programs and projects are shown in detail in section 3.3.

Currently, EERE has approximately 31 active programs. Each program has a performance risk, which means there is some likelihood that the program may not be able to carry out its plan completely and fall short of its goals. However, it is still possible that other programs may exceed their goals, resulting in EERE still accomplishing its mission. Hence the term "pooling the (performance) risk" at the next higher level. This is comparable to a stock portfolio or mutual fund where the performance of some stocks falls short, but others yield more than expected, so the overall fund or portfolio achieves the desired return.

Program portfolios enhance EERE's chances for success.

Program managers must consider both their program and EERE's mission.

EERE management officials must keep this pooling of risk concept in mind when establishing programs and providing them guidance and resources.

As a program manager, you must understand that your program has to fit into the larger portfolio. Your program may not be as broadly chartered or generously funded because your program is sharing scarce resources with other programs in the interest of achieving a proper balance. You should always keep the end in sight (that is, the EERE mission), when implementing your programs. This requires that you give attention to crosscutting goals, sometimes at the expense of higher risk to your program's goals.

EERE's program portfolio is dynamic, requiring periodic review and adjustment.

EERE's program structure needs to be carefully reviewed and adjusted over time in response to internal performance and external scientific/technological, political and economic factors. This causes turbulence that program managers must continually address.

EERE management has a continuing responsibility to provide adequate resources for programs. For example, a reduction in a program's funding generally requires a commensurate adjustment to its goals so that it remains viable.

3.2 Distinctions Between EERE Programs and Projects

Programs and Projects are defined (and managed) separately.

EERE Programs typically involve a range of activities including Technology Research and Development, Demonstration, and Deployment. These activities are generally carried out as discrete projects. EERE's policy is to assign and manage (plan, fund, implement and track) programs and projects differently. Programs typically are managed in Headquarters and projects in the field (see Program Management Roles and Responsibilities at Sections 3.4 and 3.5).

The EERE Program Management Focus Group developed the following definitions:

Programs are typically managed by Headquarters.

- **Program:** An organized set of ongoing activities directed toward a common purpose, or goal undertaken in support of an assigned mission area.

  A program is generally the highest level or sector of work breakdown structure within a specific mission area or sector. It is characterized by a strategy for accomplishing a set of definite goals and objective(s) aligned to and in support of the mission goals. Programs are typically subdivided into projects which are managed closely by using project management tools and techniques. Programs in EERE are characterized as either core programs or developmental and support programs (programs in the exploration or initiation stage or that crosscut and contribute to other programs). Common functions, such as planning, research, and international cooperation, typically are not programs. Viewed as an integrated whole, a program is the aggregate of its subprograms (which have the same characteristics of programs but represent one additional level of subdivision) and its projects.

Projects are typically managed in the Field.

- **Project:** An executable element of a program, normally with its own discrete beginning, end and specified outcome(s).

  A project could be an effort to establish additional capability to support one or more programs (e.g., a construction project), or it could be an executable increment or stepping stone of program activity (e.g., FY2001 heavy vehicle fuel system research and technology advancement) aimed at achieving specific objectives in the specified period. A project, usually consisting of one or more tasks, is individually planned and approved and is closely managed and controlled.

3.3 EERE Programs and Subprograms

EERE's two types of programs are:

- *core programs*
- *development and support programs*

EERE maintains a dynamic portfolio of core programs and sub programs. The following represents the current set. Additionally EERE sectors maintain sets of development and support programs, which are programs in the exploration or initial stages or programs that contribute to multiple core programs.

Sector	Core Programs and Sub-Programs	Development and Support Programs
Office of Industrial Technologies (OIT)	Vision Industries • Forest Products Vision • Steel Vision • Aluminum Vision • Metal Casting Vision • Glass Vision • Chemical Vision • Petroleum Refining Vision • Mining Vision • Agriculture Vision Enabling Technologies • Combustion • Sensors & Control • Industrial Materials for the Future • Supporting Industries Financial Assistance • NICE3 • Inventions & Innovations Industrial Technology Assistance • Industrial Assessment Centers • Best Practices • States IOF	International Analytical Support Planning Support Quality Improvements Corporate Initiatives

Sector	Core Programs and Sub-Programs	Development and Support Programs
Office of Transportation Technologies (OTT)	Biofuels • Ethanol Production • Renewable Diesel Production • Feedstock Production • Regional Biomass Energy • Integrated Bioenergy Technology Research Vehicle Systems R&D • Ancillary Subsystems Development • Simulations & Requirements Definition • Heavy Vehicle Systems Optimization • Truck Safety Systems Hybrid Systems R&D • Vehicle Propulsion Systems • Hardware-in-the-loop (HITL) Benchmarking & Validation Vehicle Power Electronics & Electric Machines • Vehicle Power Electronics • Vehicle Electric Machines Vehicle High Power Energy Storage • Advanced Battery Development • Advanced Technology Development Transportation Fuel Cell Power Systems • Fuel Cell Systems • Fuel Cell Components & Subsystems • Fuel Processor & Storage Electric Vehicle Battery R&D • Advanced Battery Development • Exploratory Technology Research Engine & Emissions Control • Hybrid Direct Injection Engine • Combustion & Emission Control R&D • Light Truck Engine • Heavy Truck Engine	GATE (Graduate Automotive Technology Education) CARAT (Cooperative Automotive Research for Advanced Technologies) STICK (Stimulate Truck Innovative Concepts & Knowledge) Energy Efficiency Science Initiative Cooperative State R&D Technology Assessment and Analysis Health Impacts Environmental Impacts International

Sector	Core Programs and Sub-Programs	Development and Support Programs
Office of Transportation Technologies (OTT) (continued)	Fuels Utilization • Advanced Petroleum Based Fuels • Fuels for Fuel Cells • Alternative Fuels • Fueling Infrastructure Transportation Materials • Propulsion System Materials Technology • Lightweight Body/Chassis Materials Technology • High Temperature Materials Laboratory Transportation Technology Assistance • Clean Cities • Testing & Evaluation • Energy Policy Act Replacement Fuels • Advanced Vehicle Competitions	
Office of Power Technologies (OPT)	BioPower • Thermochemical Conversion • Systems Development • Feedstock Production • Regional Programs • BioEnergy Initiative Distributed Energy Resources • Advanced Industrial Turbine System Program • Gas Turbine Technology Base (Materials & Emissions) • Microturbines • Reciprocating Engines • Energy Storage • Enabling Materials Program (CFCC Program) • Space Conditioning • Fuel Cells • Combined Heat and Power (CHP) • District Energy (EWD) • Electricity Restructuring • Transmission Reliability	Climate Challenge • Web Site Maintenance • Web Site Maintenance • Industry Dialogue Support Competitive Solicitation OPT Corporate Analyses • Internal Analysis • Markets • Technical Questions • Benchmarking and Analysis Deployment • Institutional/Government Policy Analysis • Buildings-related Analysis • Industrial-related Analysis Outreach and Technical Assistance REPI • Incentives Payment Distribution • Policy Issues

Sector	Core Programs and Sub-Programs	Development and Support Programs
Office of Power Technologies (OPT) (continued)	<u>Geothermal Energy</u> • Geoscience and Supporting Technologies • Drilling Research • Energy Systems Research and Testing <u>High Temperature Superconductivity</u> • Superconductivity Partnership Initiative • Second Generation Wire • Strategic Research Hydrogen <u>Hydrogen Core Research and Development</u> • Technology Validation • Analysis and Outreach <u>Hydropower</u> • Advanced Turbine Systems Research and Development <u>International Programs</u> • APEC • EETIC • COEECT • Energy Efficiency Centers • USIJI/International • EERE International Activities • UNFCCC <u>Solar Technologies</u> • Photovoltaics • Concentrating Solar Power • Solar Buildings <u>Wind Energy</u> • Applied Research • Turbine Research • Cooperative Research and Testing	Renewable Indian Energy Resources • Tribal Energy Program

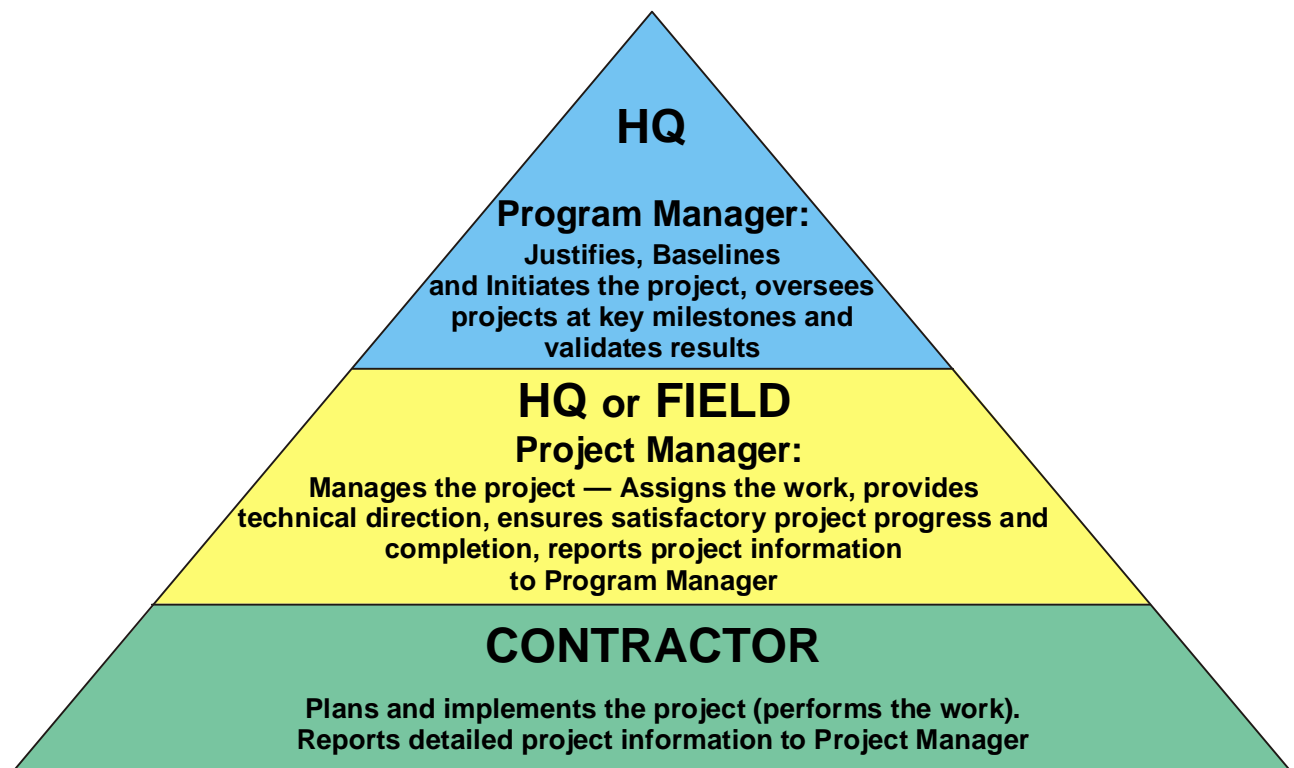| Sector	Core Programs and Sub-Programs	Development and Support Programs
Office of Building Technology, State and Community Programs (BTS)	Residential Building Integration • Technology Research and Development • Design Strategies, Tools, and Assistance • Residential Energy Codes Commercial Building Integration • Technology Research and Development • Design Strategies, Tools, and Assistance • Process Change • Performance Metrics • Commercial Energy Codes Building Equipment and Materials • Technology Research and Development (Lighting, Envelope, Refrigeration and Thermal Distribution) • Emerging Technologies • Standards Community Energy Program • Financial Assistance to States and Communities • Training and Technical Assistance • Information Outreach Weatherization Assistance Program • Formula Grants to States and Territories • Training and Technical Assistance State Energy Program • Formula Grants to States and Territories • Training and Technical Assistance Energy Star Program	BTS Program Development and Support • Planning Analysis and Evaluation • Pilot Activities • Roadmap Support • Corporate Communications • BTS Procurements • EE Science Initiative • Cooperative Programs with States • Broad-based Solicitations • BTS Competitive R&D • Support Services Contracts • Logistical Support
Federal Energy Management Program (FEMP)	FEMP • Technical Assistance • Alternative Financing DEMP	Outreach Policy Analysis and Program Evaluation Business Development

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3.4 Roles and Responsibilities of Headquarters and Field Activities

EERE HQ manages the programs, identifies and assigns the work; field elements manage and/or do the work.

The basic division of responsibility and accountability in EERE is that Headquarters elements plan, direct and oversee the programs and Field elements implement them (conduct or assign the actual work). Part of HQ program planning and oversight entails establishing projects (discrete activities with definitive beginnings and endings). EERE Headquarters or Field elements (the Golden Field Office, DOE Operations Offices and Regional Offices [see Chapter 2]) then plan the projects and direct and oversee project implementation and other program operations and activities conducted by Federal laboratories and other Government and non-Government entities, including contractors, industry partners, interagency partners, etc.

Project Management Roles

HQ

Program Manager:
Justifies, Baselines
and Initiates the project, oversees
projects at key milestones and
validates results

HQ or FIELD
Project Manager:
Manages the project — Assigns the work, provides
technical direction, ensures satisfactory project progress and
completion, reports project information
to Program Manager

CONTRACTOR

Plans and implements the project (performs the work).
Reports detailed project information to Project Manager

3.5 Program Manager and Project Manager Responsibilities

The following table outlines the general responsibilities of EERE Program Managers and Project Managers. Even though Program Managers and Project Managers have the lead responsibilities listed below, they will frequently consult and coordinate with each other during the year.

These responsibilities were derived from and are consistent with current DOE directives governing project management. They have been refined and elaborated by the EERE Program Management Focus Group to more accurately associate with EERE's mission and the nature of its programs.

3.5.1 Planning

The EERE Program Manager:	The EERE Project Manager:
Plans and develops the overall program	***Initiates and oversees the project***
Provides policy and broad program direction	Provides the Program Manager recommendations on technical performance, cost and schedule requirements for the planned project that contribute to the program's goals and objectives
Aligns programs and projects with Corporate and Sector goals and objectives	Defines the project's objectives and how the project will be organized, staffed, and managed
Conducts multi-year program planning and identifies annual performance milestones	Defines the project management approach and optimizes the procurement strategies
Establishes and justifies the need for project within the program	Develops the project execution plan
Supports EERE and Sector strategic and mid-term planning efforts	Understands EERE and Sector and program goals, objectives, and strategies

3.5.2 Budget Formulation

The EERE Program Manager:	The EERE Project Manager:
Prepares, justifies, and defends the program budget	***Develops and submits the project budget to the Program Manager***
Develops and submits estimates of the funding and FTEs needed to carry out the program's science and technology base and operations and support plans	Prepares the resource requirements of the project
Aggregates and submits the funding and FTE requirements for implementing the program's authorized projects	Estimates and validates contractor and Federal FTE requirements
Provides the rationale for the program's activities, including science and technology base, projects, and operations and support	Identifies and validates necessary facilities and equipment
Optimizes program resource allocations to maximize performance results	Justifies the project's submission to the EERE budget

3.5.3   Budget Execution

The EERE Program Manager:	The EERE Project Manager:
Executes the program budget and implements the program	***Implements the project***
Authorizes projects and establishes and staffs project management offices and project cancellations	Determines project and contract scope, and recommends new projects, project modifications
Ensures timely funding for projects and other program activities	Executes the project in coordination with the field procurement function
Integrates across all elements of the program (science and technology base, projects, and operations and support)	Selects project performers in coordination with the field procurement function
Monitors program-level milestones and evaluates progress	Evaluates contractor performance and determines acceptability of completed work
Assures proper coordination between multiple Field Elements, other DOE programs, Federal agencies, other program partners.	Monitors project-level milestones and evaluates progress
Advocates the program through liaison with the public and private sectors	Provides technical direction to Field contractors who execute projects
Is accountable for achieving program objectives, e.g. cost, schedule and technical performance	Is accountable for Government project funds and ensures their timely distribution
	Assures proper coordination by all appropriate line and staff elements beginning with project inception
	Is accountable for achieving project objectives, e.g., cost, schedule and technical performance

3.5.4   Program Analysis and Evaluation

The EERE Program Manager:	The EERE Project Manager:
Analyzes and evaluates the overall performance of the program	***Analyzes and evaluates detailed performance of the project***
Evaluates program variances from expected progress and initiates necessary corrective actions	Tracks project execution against cost, schedule and technical performance
Ensures Field performance of assigned status program tasking, e.g. science and technology base and operations and support	Independently assesses regular project status reports
Reviews project portfolio performance against established baselines	Identifies significant variances in project progress and recommends corrective actions
Supports Sector, Corporate and Departmental evaluation efforts	Regularly assesses and reports project status, e.g., cost, schedule, technical performance, to the program manager
Identifies significant variances in program results and recommends corrective actions	
Validates reported results	
Establishes an evaluation plan	
Estimates program benefits to date	
Ensures adequate peer reviews of program progress	

Additional Information

More detailed information on program managers' roles, responsibilities and performance objectives is contained in Appendix F-1 and F-2, respectively.

3.6 How to Manage an EERE Program: A General Overview of the Program Management Cycle

3.6.1 The Program Management Cycle

The EERE program manager is the vital agent who is responsible for transforming strategic objectives into reality through the successful development and execution of programs/projects.

The successful accomplishment of EERE's mission is dependent upon the ability of program managers to transform strategic objectives into reality, building the foundation for EERE's success.

While program managers use defined methods to develop and monitor programs, effective program management is best described as an art. Vital elements of program management can be identified and detailed in guides (such as this) and training. However, it is the personal combination of motivation, talent, knowledge, and experience that produces effective program managers.

Program management is a complex and multi-dimensional task involving technical competence, communication and negotiation skills, creativity, organization, and especially, effective time management. Using these skills, the EERE program manager must juggle the many different tasks and responsibilities involved in successful:
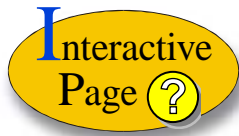
- Planning,

- Budget formulation,

- Budget execution, and

- Program analysis and evaluation.

3.6.2 Planning

Program manager must plan in three broad areas:

- *Strategic*

- *Multi-Year Program*

- *Annual Operations*

The EERE program management planning cycle involves a progression of activities that are tiered into three broad levels. The program manager contributes at all three levels. Strategic planning at the DOE, EERE, and Sector levels addresses the broad DOE wide missions, visions, strategies, and strategic objectives (identified in the current DOE Strategic Plan) and formulates EERE and Sector specific missions, visions, strategies and strategic objectives. Multi-Year Program Planning is performed largely at the program level and translates the strategies

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and strategic objectives developed at the strategic level into specific technical, funding, and schedule requirements for multi-year program plans. Annual operations planning reduces programs into their constituent projects and details, technical objectives, contracts, grants, and Field assignments, budgets, and milestones for each year. See Figure 3.6.1 below for a summary of the program management cycle planning stages.

Sector Level

Strategic Planning

Vision
Strategic goals/objectives
Strategies

Program Level

Multi-Year Program Planning

Technical requirements
Funding requirements
Milestones
Budgets

Project Level

Annual Operations Planning

Projects
Spend plans
Acquisition plan

Budget Execution

Obligations
Program guidance letters
Work authorizations
Grants
CRADAs

Figure 3.6.1

In addition to these plans, a prudent program manager would develop contingency plans at the program level and, more importantly, at the project level to be ready to respond to significant, and unexpected, increases or decreases in budget authority.

3.6.2.1 Strategic Planning (every 2-3 years)

The strategic planning process is a multi-level process where the overall DOE and EERE mission, vision, and broad strategic goals are successively refined into increasing levels of detail. The process leads to the formulation of EERE, Sector and/or program-specific strategic goals that provide the focus and justification (including legislative) for EERE programs.

The EERE Strategic Plan is produced at the Assistant Secretary level and is updated approximately every 2-3 years.

The Sector Strategic Plan is generated at the Deputy Assistant Secretary (DAS) level and is updated periodically as the technology sector and DOE environment changes and as the EERE Strategic Plan is updated. The key role of strategic planning is to assure that the long-term goals and objectives for which the program is striving are the best that can be currently envisioned. The program can then be executed in concert with the DOE and EERE missions, goals, and objectives.

The key elements developed or reaffirmed through strategic planning are as follows:

- Mission,

- Values,

- Situation analysis,

- Vision, strategic goals and objectives,

- Strategic issues, and

- Strategies.

Additionally, the strategic plan must support the establishment of DOE and EERE performance goals, measures, and expectations as required by the Government Performance and Results Act (GPRA).

The Deputy Assistant Secretary and his/her staff develop the bulk of the sector strategic plan including the mission, values, situation analysis, and vision. Program managers and Office Directors assist in the development of specific strategic objectives and performance goals, and in the identification of strategic issues.

Strategic planning steps:

1. **EERE Strategic Plan is issued.**

2. **DAS generates the sector Strategic Plan.**

3. **Program manager assists in the development of the strategic objectives and issues.**

4. **Program manager helps generate strategies.**

5. **Program manager conducts broad program planning.**

The program managers and Office Directors complete the strategic planning process by generating strategies that target the achievement of the strategic objectives while addressing the realities imposed by the strategic issues (especially legislative mandates and constraints). Broad program planning is conducted by the program manager with input from Office Directors, the Golden Field Office, the Regional Offices, the National Laboratories, industry groups, professional associations, and panels of experts to identify and develop new program areas or to refocus existing programs (if necessary) to achieve strategic objectives.

3.6.2.2 Multi-Year Program Planning (Update annually)

1. Program manager identifies key program elements.

2. Program manager develops the Multi-Year Program Plan (MYPP).

3. Program manager identifies projects, levels and content of lab support and procurement and financial assistance.

In developing the Multi-Year Program Plan, the program manager begins by identifying key program elements required to achieve the strategic goals and comply with Congressional directives, specifically:

- Technical and/or marketing requirements, risks, and potential barriers,

- Legislative requirements and limitations,

- Program structure,

- Identification of technical and contract management,

- Identification of desired support providers,

- If a team of support providers is desired, identify the structure and roles of this team,

- Funding requirements, and

- Milestones/scheduling requirements.

Program milestones must be identified at junctures along the critical path to the program goals and objectives. They should represent key decision points for determining as early as practicable if the program is on track toward achieving objectives and facilitate timely adjustments to the program's strategies.

The MYPP integrates these key program elements and becomes the *basis for budget requests and justifications*, as well as the baseline document that provides the framework for periodically evaluating and reporting program progress. The MYPP is also

considered a "living document" and is updated on an annual "rolling" basis. An MYPP is developed for each program and contains the following:

- Introduction

- Goals and Objectives

- Technical and/or Marketing Plan

- Implementation Strategy

- Management Plan

The program manager updates the MYPP with input and assistance from many sources, including laboratories and support contractors.

3.6.2.3 Annual Operations Plan (Each fiscal year)

AOP starts with ensuing fiscal year of MYPP.

After the MYPP is updated, the program manager begins the annual operations planning process by using the ensuing fiscal year (slice) of the MYPP as the foundation on which to develop the Annual Operating Plan (AOP). The program manager reviews the program's goals and objectives. He/she then reviews the near-term milestones and determines the activities required in the upcoming execution year to achieve them. Some of the milestones will be achieved by ongoing project activities from prior fiscal years. Others will require the initiation of new projects. All will require the identification of the applicable funding requirements and the timing of the funding obligations. In each case, the work performer and/or procurement and/or financial assistance vehicles will be identified and the cost, schedule and technical requirements specified.

Program manager reviews goal, objectives and milestones.

AOP defines means of achieving upcoming FY milestones.

AOP identifies all work for year by all performers.

Where it is anticipated that the laboratories will be assigned the work, the program manager may direct them to generate and submit a field Work Proposal (FWP). In many cases the FWP will be submitted as part of the laboratory's Annual Operating Plan. In reviewing the FWP, the program manager may discuss and negotiate its provisions with the lab before deciding upon the level of tasking and funding necessary.

AOP includes spend plan.

AOP drives acquisition plan.

Where the performer is other than a lab, the program manager needs to determine the appropriate procurement or financial assistance instrument and estimate the funding required.

To complete the AOP, the program manager develops a Spend Plan, which identifies all of the funding required and when it will be needed during the year. The completed AOP is then used to develop an Acquisition Plan (see Appendix A-2), which provides the planning details including the lead times for preparing procurement and financial assistance documents. The AOP is also the source of information for generating Work Authorizations and Program Guidance Letters to the field.

3.6.3   Budget Formulation

After the program has been fully defined, the program manager secures funding through the budget development process.

The DOE budget process begins each spring with the preparation of DOE internal budget called the Corporate Review Budget (CRB). This budget is for the fiscal year that is two years away, e.g. the budget process beginning in the spring of 2001 is for FY 2003.

- *The program manager refers to internal planning.*

- *The program manager gathers input from Labs and Field offices.*

Prior to developing the first draft of the budget, the program manager gathers input from appropriate personnel at DOE headquarters, the labs and field offices as well as internal planning, primarily the multi-year program plan. Program managers should already have much of this information from the multi-year program planning process which occurs prior to the Budget Formulation Process.

- *DOE Controller issues call for development of the Corporate Review Budget (CRB).*

The Budget Process begins when the DOE controller issues the call for development of the CRB and guidance for its preparation.

3.6.3.1. Development of DOE Corporate Review Budget

- *Sector prepares CRB.*

- *Office Directors review CRB.*

- *Deputy Assistant Secretary and the Assistant Secretary review the CRB.*

The program manager reviews his/her program and prepares the program budget including the key activity summaries, based on what the program needs to accomplish to achieve its goals and contribute to higher level (EERE, DOE National) goals. Useful information for budgeting purposes can come from the DOE spend plan history, the existing budget, and the multi-year program plan. These budgets are then reviewed by the appropriate Office Directors who direct comments and revisions back to the Program Manager.

The overall sector budget is then reviewed by the appropriate Deputy Assistant Secretary who may accept the budget, or recommended changes or cuts. Discussions between the Deputy Assistant Secretary and the Assistant Secretary determine initial funding levels at which the budget will be developed. Based on the budget agreed upon by the Assistant Secretary and the Deputy Assistant Secretary, the program manager is usually requested to update his/her FY Key Activity Summaries.

3.6.3.2. The Key Activity Summary

- **The program manager prepares the Key Activity Summary based on the CRB.**

The Key Activity Summary is a major part of the overall budget document that is the basis of the budget request. The Key Activity Summary includes program descriptions/explanations, overall objectives and long-term strategic goals, and lists all projects conducted under each program. The program manager develops the upcoming budget year's key activities using the CRB for guidance, or any draft key activities developed for the CRB, the previous fiscal year's Key Activity Summary, and planning documents. With each review process of the budget, the Key Activity Summary should be updated to reflect any changes in the budget.

Appendix B-2, "The Corporate Review Budget Document," explains the development of the Key Activity Summary, and the Budget Analysis Review and Reporting System (BARRS) used to coordinate its development.

3.6.4 Budget Execution

- **Program manager initiates the development of required program support funding documents.**

- **Program manager updates the Multi-Year Program Plan, Spend Plan, and the Annual Operating Plan.**

Since budget execution and procurement activities are vital to maintaining program progress, and many procurements and interagency agreements can have significant lead times, program support funding documents (e.g., procurement requests, work authorizations, etc.) should be submitted at the earliest possible time. To accomplish the timely submittal of the program support funding documents, the program manager should implement the acquisition plan and initiate the generation of these documents early (especially documents for interagency agreements, sole source justifications, and statements of work).

After fiscal year funding levels (from Congress) have been established, the program manager updates the MYPP, AOP (projects, milestones, spend plan), and acquisition plan to reflect funding realities.

- *Program manager finalizes and submits program support funding documents.*

- *Program manager tracks the obligation of funds and updates the Spend Plan accordingly.*

The program execution phase is initiated with the finalization and submittal of the program support funding documents to the Sector's Budget Execution Specialist to begin the authorization, obligation, and procurement process. As funds are authorized, the Budget Execution Specialist updates the Spend Plan accordingly, and the program manager tracks the obligation of funds and updates the Spend Plan as funds become obligated. The current Spend Plan is reflected in the Spend Plan spreadsheet in the EERE SMS Budget Hut.

To avoid program interruptions, another major program manager responsibility is to ensure that funding is provided to the program supporters (labs, contractors, etc.) in a timely fashion according to the Spend Plan. This is accomplished through the submission of the appropriate program support funding documents to the Budget Execution Specialist as part of the monthly Approved Funding Program (AFP) process.

3.6.5 Program Analysis and Evaluation

As the program and individual projects progress, the program manager is responsible for oversight and tracking of the program's technical, schedule, and fiscal progress. The program manager will continually evaluate progress through discussions and reviews with project managers, and when required initiate corrective action to keep programs on target toward achieving the desired strategic goals.

Program progress will be reported to management through monthly EERE Program Progress Reviews. These reviews provide the forum for the dissemination of program progress to EERE management along with required status reports from the field.

- *Program manager oversees and tracks program performance.*

- *Program manager presents program progress at Program Progress Reviews.*

- *Program manager must allow for unforeseen events.*

One thing the program manager can always count on is that unforeseen events will occur that significantly alter the dynamics of his/her programs. The skillful program manager will identify the disruption early and develop (often with consultation with peers and Office Directors) a plan to redirect the program. These events/disruptions may be small enough to require only minimal restructuring of a project milestone or may be large enough to require re-examination of the attainability of the strategic goal itself.

The key to maintaining the program on a steady course in turbulent conditions is to continuously evaluate progress and feed this information back into the strategic and operational planning processes to realign the program course accordingly.

The very nature of the strategic planning process ensures that EERE programs are not conducted in a vacuum and are coordinated to achieve strategic objectives. Therefore, the progress (or lack of progress) in a program will impact other programs. For this reason, feedback from program managers to the strategic planning process is vital to maintain the coordination and focus of efforts.

Program manager feeds program progress back to strategic planning participants to update strategic objectives and refocus program if necessary.

At key intervals the program should conduct comprehensive reviews supported by analysis and objective review and recommendations by panels of experts (merit review/peer review). The frequency, regularity, depth and degree of independence of these reviews depends on the nature of the program, degree of technology change or evolution, the program's performance and results and interest among the stakeholders. The results of these reviews help complete the program management cycle by feeding forward into the next planning stage.